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Bodies, non-human matter and the micropolitical production of sociomaterial dis/advantage

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journals.sagepub.com/home/jos**Nick J Fox** 

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Abstract

This article sets out a more-than-human framework within which to explore the contribution of non-human matter to social inequality. Applying an approach based in Deleuzian ethology, we extend three invitations: to address the multiplicity and fluidity of dis/advantage, to explore its production in everyday interactions, and to acknowledge non-human as well as human matter in the emergence of dis/advantage. The article examines how the interactions between human and non-human matter produce and reproduce context-specific bodily capacities and incapacities, and consequently ‘a thousand tiny dis/advantages’. These dis/advantages may accumulate to produce substantive inequalities and social divisions. An illustrative re-reading of Paul Willis’s 1970s study of the cultural reproduction of social inequality *Learning to Labour* reveals the complex ways in which daily encounters between human and non-human matter produce both transient and lasting dis/advantage. We conclude with a discussion of the implications of this more-than-human perspective for the sociological study of inequality.

Keywords

Affect, assemblage, dis/advantage, inequalities, new materialisms, non-human matter

Our intention in this article is to establish a framework within which to explore the contribution of non-human matter (NHM) to the phenomena variously described within sociology as ‘social divisions’, ‘social stratifications’, ‘social inequalities’, ‘social

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position' and 'social class', and which we shall summarise (for reasons fully explained later) as social 'dis/advantage'. NHM encompasses a multiplicity of disparate stuff, including natural and manufactured objects and the entirety of living organisms other than human beings.¹ In this article we focus on a subset of NHM that includes the spaces and places that people inhabit at work, home or leisure (Paton et al., 2017); the tools, raw materials, facilities and infrastructure that they use in their workplaces or in daily life (Bell and Vachhani, 2020; Denis and Pontille, 2015; Fernandes, 1997); the material goods that they either possess or have access to as a consequence of their social position; and the myriad other interactions with material things that affect them on a daily basis (Dorling, 2013; Winner, 1980: 126).

Despite this ubiquity, NHM has not featured prominently within the sociology of social position and social inequalities. Marx's (1959: 70) historical materialist analysis of capitalist class relations acknowledged the interplay between human bodies and one specific formation of NHM: 'economic capital'. For Weber (1964: 425), NHM is mentioned in relation to social position only in terms of the economic resources owned by individuals that contribute to their life chances. More recently, Bourdieu's (1984, 1986) analysis shifted the sociology of social position further from a concern with matter, arguing that in addition to such economic assets, individuals and groups use *symbolic* resources – such as culture and education (or 'cultural capital') and social networks ('social capital') – to achieve social distinction and sustain relative social position (Bourdieu, 1984: 114; Savage et al., 2013: 223; Toft, 2019: 112).

Here we aim to redress this balance, considering how NHM may also contribute to the production and reproduction of social advantage and disadvantage. Later in the article we apply an ethological re-reading of Paul Willis's (1977) classic study of school students, culture and class reproduction, *Learning to Labour*, to illustrate how a wide range of NHM contributed affectively to producing the social dis/advantages that Willis's respondents experienced. Before that, we develop an ontology of social dis/advantage that enables incorporation of NHM into the sociological study of the various phenomena mentioned at the outset of this introduction. We adopt a 'new materialist' and 'more-than-human' ontology (Coole and Frost, 2010; Connolly, 2013; Fox and Alldred, 2017), specifically the 'ethology' of Gilles Deleuze (1988: 125) and its conceptual toolkit of 'affect', 'assemblage', 'capacity' and 'micropolitics'.

We then consider how this toolkit might translate into a perspective on the production of dis/advantage, and extend three invitations to scholars and activists. These address the multiplicity and fluidity of dis/advantage, its production in everyday interactions, and concern with non-human as well as human matter in the emergence of dis/advantage. These invitations are then developed to establish an ethological perspective on the material production of dis/advantage. With the benefit of a partial re-analysis of *Learning to Labour*, we suggest not only that the study of how daily encounters between human bodies and NHM addresses a gap in the literature, but that ethology's conceptual framing reveals a new understanding of how such daily encounters progressively and endlessly contribute to the 'thousand tiny dis/advantages' affecting contemporary citizens.

Matter: an ethological perspective

The materialism that has emerged in the humanities and social sciences since the millennium moves significantly beyond both historical materialism (Cheah, 2008: 155; Coole and Frost, 2010: 26) and post-structuralist concerns with textuality and social *construction* (Coole and Frost, 2010: 7; Taylor and Iverson, 2013: 666), to reinstate concern with matter alongside language in social processes (Barad, 2003: 810; Chibber, 2017; Deleuze and Guattari, 1984: 4). 'New materialism' is a portfolio term that incorporates a very wide range of disparate philosophical, feminist and social theory perspectives (Coole and Frost, 2010: 5; Fox and Alldred, 2019; Lemke, 2015: 3–5).² It has further been suggested that new materialism is 'new' only in relation to Western and Eurocentric ontology, and that it recapitulates many aspects of Indigenous and First Nation ontologies (Rosiek et al., 2020; Sundberg, 2014).

Despite this breadth, some features in common may be identified. Coole and Frost (2010: 28) describe materiality in these perspectives as plural and complex, uneven and contingent, relational and emergent. According to van der Tuin and Dolphijn (2010: 155), new materialist ontology cuts across mind–matter and culture–nature divides in humanist thought, putting into question other social theory dualisms, including structure/agency, surface/depth; reason/emotion, human/non-human, and animate/inanimate (Braidotti, 2013: 4–5; Coole and Frost, 2010: 26–7; van der Tuin and Dolphijn, 2010: 157). Connolly (2013: 400) notes that new materialists recognise the vital capacities of all matter, and ascribe agency to 'a host of non-human processes'. This establishes a strong more-than-human ethical and ecological thread encompassing the entirety of the material world and its contents (Barad, 2007: 185; Bennett, 2010: viii; Braidotti, 2013: 104; Connolly, 2013: 401). These 'monist' aspects of the new materialisms establish them within a 'philosophy of immanence' (Connolly, 2010: 178) that dispenses with any idea of a foundation or 'other level' or reality beyond the everyday (Authors, 2018: 318; van der Tuin and Dolphijn, 2010: 155). As will be shown later, this latter feature significantly re-makes sociological perspectives on the production of social dis/advantage.

In this article, we focus on the Spinozist ethology developed by Gilles Deleuze (1988: 123–7; see also Buchanan, 2000: 5). This choice reflects the extensive use of ethology's conceptual toolkit of affect, assemblage, capacity and micropolitics by social theorists seeking to apply a critical perspective to the social world (Bennett, 2010; Braidotti, 2011, 2013; DeLanda, 2006, 2016), and by those researching a variety of sociological topics including gender, race, sexualities, environment, civil infrastructure, health and human development (Alldred and Fox, 2015; Bennett, 2005; Coleman and Ringrose, 2013; Duff, 2010, 2014; Fox and Alldred, 2017, 2020; Grosz, 1993; Saldanha, 2006).³

Deleuze established ethology as the study of *affects* – defined as 'capacities for affecting and being affected', and of how these affects diminish or strengthen a body's or a thing's power to act (Deleuze, 1988: 125–6). An affect is a 'becoming' (Deleuze and Guattari, 1988: 256) that represents a change of state of an entity and its capacities (Massumi, 1988: xvi): this change may be physical, psychological, emotional or social. Because one affect can produce more than one capacity in more than one entity, affects flow 'rhizomically' (Deleuze and Guattari 1988: 7), branching, reversing flows, coalescing and rupturing, supplying a diachronic and dynamic understanding of production.

In this ontology, bodies, objects, thoughts, concepts, memories, and social formations (all of which are capable of affectivity) are not to be defined by form, substance, subjectivity or fixed attributes, but simply by their capacities to affect. *Capacities* are not inherent, but emerge relationally when one body or thing interacts with other similarly contingent and ephemeral bodies, things and ideas (Deleuze, 1988: 123; Deleuze and Guattari, 1988: 261). Consequently, it is this affective flow or *affect economy* (Clough, 2004: 15), and this alone, that determines what a body or other thing can do within a particular context (Deleuze, 1988: 124). This relational formulation counterposes ethology to essentialist ontologies that assert that an entity such as a table or a human has inherent attributes that define its identity and function. DeLanda (2016: 143–4) makes the case for a relational understanding of all matter – from the simplest of atoms – that acknowledges emergent capacities rather than inherent attributes.

Deleuze and Guattari (1988: 22) describe these contextual arrangements of bodies and things as *assemblages*. Assemblages emerge in unpredictable ways around actions and events (Bennett, 2005: 445; Deleuze and Guattari, 1988: 88), ‘in a kind of chaotic network of habitual and non-habitual connections’ (Potts, 2004: 19), drawn together by their constituents’ capacities to affect or be affected (Deleuze, 1988: 124). All social production, social formations, power relations and resistances emerge from these affective flows, which bring together micro and macro, personal and geopolitical (Deleuze, 1990: 207; Gatens, 1996: 169). The flow of affect within assemblages is consequently the means by which lives, societies and history unfold (Thrift, 2004: 61).

The Spinozo-Deleuzian conception of affect as a capacity to affect or be affected means that NHM, as well as humans, can be affective, contributing to the production and reproduction of the world. This ontology problematises the conception of agency in humanist sociology as the prerogative of humans. Bennett (2010: 4–16) describes the affectivity of NHM as a ‘thing-power’. However, she emphasises that this agency – whether of human or non-human matter – is always the capacity of assembled matter, rather than an essential property of a body or a thing in and of itself (Bennett, 2010: 5, see also DeLanda, 2002: 66).

Flows of affect change the capacities of an entity (a body, a collectivity or a thing) in one direction or another (Duff, 2010: 625), and may combine or cancel each other out. It follows that the *micropolitics* of affects within assemblages (Deleuze and Guattari, 1988: 216) is key to unlocking how the world and everything in it is produced moment-by-moment. Deleuze and Guattari describe these micropolitics in terms of two movements within assemblages. On the first of these, Deleuze and Guattari developed the notions of *territorialisation* and *de-territorialisation* to describe how – within assemblages – bodies and things are shaped and re-shaped by rival affects (Deleuze and Guattari, 1988: 88–9). Territorialisation determines the limits of what a relation can do within a particular assemblage. It may be understood as a process of *specification*. For example, a tooling affect may specify (territorialise) a piece of metal as a screwdriver possessing particular specific capacities. De-territorialisation marks out the opposing tendency of an affect to open up new possibilities for a body when it assembles with certain other relations. This, consequently, is a *generalisation* of capacities. For instance, a purpose-made screwdriver can be re-purposed in other assemblages as chisel, lever or even as weapon. These two antagonistic movements of specification and generalisation mean that the

possibilities and limits upon what a body can do (capacities) also fluctuate continuously and unendingly, ‘in a world which is constantly becoming’ (Thrift, 2004: 61).

Deleuze and Guattari’s dualism of *molar* and *molecular* flows of affect in assemblages describe a second way in which affects may influence what a body can do. ‘Molar’ affects *aggregate*, and act similarly on multiple bodies, organizing or categorizing them to create converging identities or capacities (Deleuze and Guattari, 1984: 288). Aggregative forces are frequent features of social life, and include systems of thought, categorisations, cultural norms and so forth (Fox and Alldred, 2013: 776; Potts, 2004: 20). (We consider the implications of this for sociological efforts to discern discrete ‘social classes’ later.) By contrast, Deleuze and Guattari argue that ‘molecular’ affects are not aggregative, but instead produce a *singular* outcome or capacity in just one body or other relation, with no significance beyond itself, and without aggregating consequences (Deleuze and Guattari, 1984: 288). For instance, while categorising a new pet kitten as tabby or tortoiseshell is aggregative, naming it ‘Daisy’ is a singular affect. Singular affects may on occasion enable ‘lines of flight’ (Deleuze and Guattari, 1988: 204), enabling bodies or things to resist aggregating or constraining (territorialising/specifying) forces, and supplying opportunities for new capacities to act, feel or desire (DeLanda, 2016: 21).⁴

The following section considers how this materialist ontology of affects, assemblages and micropolitics complements contemporary studies of social position.

‘Class’: three perspectives and three invitations

Marx’s (1959: 70) dialectical analysis of class was principally concerned with the human practices that he argued constituted the social relations of capitalism (Lettow, 2017: 113–14). However, his analysis of these social relations in *Capital* illustrated precisely how bodies and other matter (the means of production, raw materials, finished products, money) are caught up in the web of social, economic and political forces that underpin the capitalist mode of production (Marx, 2011 [1887]: 201–15). It was also a critical theory that enabled exploration of the politics of social inequality (Marx and Engels, 1970: 55–6).

By contrast, Weber’s approach diluted a materialist concern with economic resources with a secondary aspect of class: social status. While considering class position as principally determined by access to economic resources (Weber, 1964: 425), social status derived from a mix of lifestyle (‘mode of life’), education, privilege of birth and occupation (1964: 428–9). Classifications of socio-economic status, including the Goldthorpe class scale (Goldthorpe and McKnight, 2006), which categorised people into occupational groups from professional through to unskilled manual workers and non-employed, derive from this Weberian perspective.

As set out in *Distinction*, Bourdieu’s (1984) theory of cultural reproduction in some ways recapitulates this Weberian perspective on social status (Gartman, 1991: 423), though derived from statistical analysis of large empirical social datasets (Wacquant, 2018: 9; Weininger, 2005: 83). His contribution to contemporary class analysis rests on suggestions that, in addition to economic resources or ‘capital’, groups within societies also have recourse to marketable *symbolic* assets such as cultural tastes or dispositions

and education (cultural capital), and social networks (social capital) (Bourdieu, 1986). The accumulation of particular symbolic resources may be used strategically to establish, sustain and transmit socially desirable identities and distinctiveness inter-generationally (Bourdieu, 1984: 56, 114, 1986: 48; Savage et al., 2013: 223; Toft, 2019: 112). In a significant break with Weber, however, Bourdieu introduced the notion of ‘habitus’, to designate a ‘socially constituted system of dispositions’ (Weininger, 2005: 91), whereby neither norms nor rational calculation lead individuals to adopt classed practices. Instead, habitus internalises class-specific responses to situations (Bourdieu, 1984: 101), enabling appropriate bodily practices without reflection or calculation (Weininger, 2005: 91).⁵

In a recent large-scale survey of UK social class, Savage et al. (2013: 246) argued that this Bourdieusian model of class offers a more detailed analysis of contemporary social divisions and inequalities than those based on other measures of socio-economic status. This study aggregated the UK population within seven classes based on statistical analysis of respondents’ economic, social and cultural capital. Social capital was a measure of the breadth and social value of a person’s social networks (who and what occupational class of person they know), while cultural capital marked out their engagement with different cultural forms, from opera to sport to video games (Savage et al., 2013: 225–7). Economic resources were limited to household income, property and savings.

While this brief summary is clearly far from a comprehensive analysis of sociological theories of class, it serves to identify a trend within sociology’s treatment of social position away from material considerations of the more-than-human. With this in mind, and in the light of the development of an ethological ‘new materialism’ of lively matter in the previous section, it is timely to *invite social theory to reincorporate a concern with matter – both human and non-human – into the exploration of social position*. The intention here is two-fold. First, to address a ‘gap’ in the literature specifically concerning NHM. This would acknowledge the myriad daily interactions that bodies have with material stuff at work, home and leisure (Paton et al., 2017); the facilities and infrastructure that they use in their workplaces or in the community; and the spaces and places that they inhabit. But second, by framing this additional focus within Deleuzian ethology, to re-think these encounters not as human agents interacting with inert matter, but in terms of assemblages in which human matter and NHM mutually affect and are affected, to produce relative advantage or disadvantage in bodies.

However, an ethological framing has two further consequences, which we again present as invitations to sociologists of social position. We noted in the previous section that ethology replaces concern with matter’s inherent attributes (with ‘what a body is’) with a focus on the context-specific and emergent capacities of matter assembled with other matter – ‘what a body can do’ (Deleuze, 1988: 124). Furthermore, both social and sociological categorisations of disparate bodies in terms of specific perceived inherent attributes such as skin colour, external sexual characteristics or occupation, have the effect of aggregating or classifying disparate bodies within narrow categories, while *repressing* the multitude of other differences between people obscuring a wide range of differences (Colebrook, 2013: 36, Lorraine, 2008: 65; Thomas, 2014: 81–2).

These insights may be extended to suggest that categorisations of individuals into distinct social classes *aggregate* bodies that may be profoundly different from others

within the same category, as well as from those in other categories. Though no doubt undertaken with the best of intentions – to make sense of a social world that appears (because it is) chaotic and unfathomably complex – such sociological aggregations are a denial of the diversity of contemporary societies. It may consequently add to the very oppression that sociologists seek to expose and to overcome, by reifying social divisions based on sociological constructs and judgements about what is significant in people's lives (such as personal possessions, cultural tastes or social networks). For both reasons, *we invite scholars to shift attention from assessments of individual or group social positions, to instead explore the multiplicity of context-specific micropolitical forces that in turn produce a multiplicity of tiny dis/advantages in bodies.*

We also noted how core features of the new materialisms, such as nature/culture transversality and recognition of matter's liveliness, have contributed to its monist and immanent ontology (Connolly, 2010: 178; van der Tuin and Dolphijn, 2010: 155). Consequently, ethological analysis of the social world steps away from structural or systemic 'explanations' (Edwards, 2010: 283; Latour, 2005: 130–1) of inequalities, to focus instead upon its micropolitical production by the affect-economies of daily encounters between materialities. Accordingly, *we invite researchers and policy-makers to explore how the everyday production of opportunities and constraints on what bodies can do contributes to both immediate and lasting dis/advantage.*

An ethological perspective on sociomaterial dis/advantage

With these three invitations in mind, we now sketch out the outline of an ethological ontology of what we shall call 'social dis/advantage'.

The relational dynamics of dis/advantage

An ontology of assemblages, affects and capacities underpins ethology's shift from what a body *is* to what it can *do*, its capacities. Rather than considering a body or a rock or an office building as a thing with defined attributes, we need instead to acknowledge that matter's capacities are always context-specific (DeLanda, 2006: 9–11). So, for example, in one context a man or woman works as a counter assistant in a fast-food outlet, while in another part of life s/he plays cello and composes music for a semi-professional string quartet, and in another, is a political activist and local councillor. Her/his capacities emerge in these different contexts as a consequence of material human and non-human interactions.

This shift establishes a basis for a relational ontology of sociomaterial dis/advantage that moves away from any sense of individuals having a stable and fixed social position, toward a much more fluid dynamic.⁶ As was noted in the previous section, Weberian and Bourdieusian perspectives on social position both emphasised individuals' stocks of relevant resources: for Weber – property; for Bourdieu not only economic but also symbolic (social and cultural) capital. If, from an ethological perspective, bodies gain their context-specific, emergent *capacities* when they assemble with a wide range of other human and non-human matter (DeLanda, 2006: 11), this means that social advantages and disadvantages must similarly be a consequence of capacities acquired in such assemblages.

Sociomaterial advantage emerges as humans interact with other humans; with collectivities such as schools or businesses; and with a wide range of physical stuff, including buildings, tools, personal possessions and consumer goods.

Furthermore, when it comes to empirical study of dis/advantage, we need to explore the relational assemblages within which capacities emerge, and the affect-economies that produce specific capacities. Earlier we summarised the two ‘micropolitical’ movements that Deleuze and Guattari introduced into their ethological ontology: territorialisation/de-territorialisation (specification/generalisation) and molar/molecular (aggregation/disaggregation). Analysis of these movements within assemblages can supply insights into both how capacities open up or close down possibilities for action, and the dis/advantages that ensue. We consider this further in the next sub-section.

A concern with the everyday

New materialist ontology supplies a theoretical and empirical focus upon how everyday events, actions and interactions produce and reproduce social divisions and inequalities (Edwards, 2010: 283). Rather than seeking explanations of social divisions in terms of imputed social structures or mechanisms such as ‘patriarchy’, neoliberalism’, ‘colonialism’ or ‘hegemonic masculinity’, we must explore the production of dis/advantage at the level of everyday events (Latour, 2005: 130–1) and their affect-economies (Clough, 2004: 15).

This focus on affect in new materialist ontology does not, however, exclude analysis of ‘large-scale’ phenomena such as the workings of a market economy, but instead cuts across micro/macro thinking. Affect-economies may draw into assemblage materialities of seemingly disparate ‘scales’, for instance, the shop floor of a factory and the economic policies of a nation (DeLanda, 2016). Affects flow between these disparate materialities to produce multiple capacities, including the labour that earns a worker’s wage, a city’s economic prosperity, and national and international patterns of social dis/advantage.

In this perspective, it is these affect-economies – at work and within other events – that produce and reproduce class, gender, racial and other aggregations. Some affects within an event act to *specify* what a body or a thing can do, narrowing its possibilities for action. For example, the development of the factory production line, while increasing manufacturing efficiency, constrained workers’ capacities to manage their work routines. Other affects *generalise* capacities, opening up new opportunities: ‘flexi-time’, for instance, supplied workers with more opportunities to control their own workload and hence productivity. Affects may act *singularly* upon matter (for instance, a manager assigning a job task to an individual) or may have the effect of *aggregating* similar or dissimilar materialities together (such as a sexual division of labour within the construction industry). This focus thus does not deny the existence of the powerful forces/affects identified by sociology that aggregate, constrain and allocate resources differentially (conventionally identified by titles such as ‘neoliberalism’ and ‘patriarchy’), but from a new materialist perspective these forces manifest at the level of the everyday events that constitute human lives and human history (DeLanda, 2016: 14–18). This alters the questions that need answering. Instead of asking how these top-down structural forces produce social inequalities, we need to consider why and how some affect-economies that

occur regularly in everyday encounters (for instance, the differential allocation of spaces to management and workers in a factory discussed in the next sub-section) are so powerfully aggregative that they can both establish and sustain divisions across time and space. And what are the singular affects within events that counter these forces and enable social divisions to transmute or dissipate?

A focus upon all matter

Acknowledgement of the capacity of all matter (both human and non-human) to materially affect supplies a final shift of focus. In the previous section we identified a shift in contemporary class theories from the material to the symbolic in concepts such as social and cultural capital. The new materialist recognition of the affective capacities of *all* matter opens up the possibility to explore the part matter (both human and non-human) plays in the production and reproduction of social divisions, and the breadth of material interactions that human bodies experience from moment to moment. For many, the workplace is a significant aspect of their everyday encounters with both human matter and NHM. The importance of the latter for the production of social advantage or disadvantage may be illustrated by a swift thought-experiment contrasting the material work of a senior professional and a factory labourer.

While the material advantage of a professional post derives partly from an above-average salary, generous pension arrangements and perhaps an expense account, quotidian interactions with the material infrastructure of professional work also generate sociomaterial advantage. A professional such as a company executive, a senior partner in a law firm or a university vice-chancellor generally inhabits spacious, good-quality, well-regulated and amenable offices, boardrooms and other work spaces, and exclusive communal and private spaces such as an executive dining room, private bathrooms and even company-owned residences. Offices are well-equipped with comfortable furnishings, information and communication technology, and all the resources (from stationery and photocopiers to information sources or specialised equipment) that enable professionals to work productively and creatively. Such a senior professional may have a designated car-parking space for their own or a company car. When they travel for work, it's with a business class airfare or a first-class train ticket.

Factory workers' interactions with non-human stuff are very different. Their work is repetitive, while their encounters with the raw materials and machinery of production can make workplaces uncomfortable, debilitating or even unsafe or injurious, as demonstrated in Fernandes (1997) study of life in a Calcutta jute mill (see also Barad, 2007: 226–30). Workers may be physically assaulted by noise and dust in factory work. In place of the roomy offices and executive dining rooms enjoyed by professionals, there are production lines, canteens, time-clocks and utilitarian sanitation facilities. In place of a company car, commuting to and from work may entail standing on crowded and unreliable trains or a bus ride home from the industrial estates at the end of the day.

This brief contrast suggests how significant NHM in the workplace can be for different occupational groups. But considering non-human stuff at work is about more than ensuring safe, comfortable and healthy working conditions. Poor quality or inadequate matter in workplaces can make it hard for workers in less skilled occupations to excel in

their occupations, with consequent limits on career progression; while those in professional or managerial posts are more likely to work in beneficial and good-quality conditions that enhance opportunities for productivity and job satisfaction (Fox and Gavriluk, under review). And because children often follow their parents into similar work, these interactions may pass on from generation to generation. In this way, social divisions and inequalities in life opportunities between occupational groups are sustained.

The production and reproduction of sociomaterial dis/advantage

Ethology's conceptual toolkit of affect, assemblage, capacity and micropolitics replaces both ontological and methodological concern with the essential characteristics of bodies (what they are) with a focus on how they affect other matter and what they do: their capacities. The task of an ethological study is consequently to identify the materialities in events, the affect-economies that assemble them, the capacities they establish in bodies and things in the assemblage, and the broader consequences of these micropolitical movements within events/assemblages. To illustrate this, we now undertake a longer exploration of the materiality of the social production of dis/advantage. We re-analyse – from an ethological perspective – Paul Willis's (1977) classic study of the reproduction of social position *Learning to Labour* (a monograph with the sub-title *How Working-class Kids Get Working-class Jobs*).

Although Willis's study predates the Bourdieusian turn in class theory, it addresses a similar concern with the cultural reproduction of social position. Willis's 1970s ethnography of secondary education in 'Hammertown' – an industrial English Midlands town – was conducted against a backcloth of an educational divide between academic and vocational education. Success in the '11-plus' examination entitled school students to attend an academic 'grammar' school, while those who failed went to a more vocationally oriented 'secondary modern' or technical school. Willis studied the differing experiences of working-class and middle-class boys at Hammertown's secondary modern and grammar schools, with a specific focus upon a group of disaffected working-class 'lads' in their final two years of education.

These boys, Willis suggested, were uninspired by their school's academic ethos, and instead espoused values linked to masculinity and the manual labour that most of their families and social acquaintances undertook (1977: 150, 2004: 155). Teachers responded to these school rejecters' acts of resistance to educational values by progressively pointing them towards non-academic classes where they would be less disruptive. While this enabled the 'lads' to spend more time on vocational activities or doing sports, it also meant they left school without the academic qualifications or skills needed for further education or 'white-collar' jobs. When they left school in 1975, all the 'lads' found manual jobs in factories or the construction industry, though some were unemployed a year later (1977: 106).

Willis explained his findings as a clash of class cultures (1977: 185), with 'culture' here denoting 'materially symbolic patterns and associated practices of human meaning-making' (Willis, 2004: 169). The informal sorting of boys into academic and vocational routes, Willis argued (1977: 185), produced the 'cultural reproduction' that sustained Hammertown's social class divisions from generation to generation.

Reading Willis's study through an ethological perspective suggests a more dynamic micropolitics. To operationalise this approach, we focus upon the sociomaterial processes both in the school and in Hammertown more generally, and not simply upon the experiences of the small group of lads from which Willis generalised his proposition. Key to the ethological analysis is the acknowledgement of a broad 'education and employment assemblage' that drew together these two aspects of Hammertown. The breadth of this is disclosed by the range of human and non-human matter assembled:

- human bodies (workers, school students, teachers, career advisers, employers, family, acquaintances);
- physical spaces and structures (school buildings and classrooms, factories, housing, pubs, sports facilities);
- material facilities in schools (learning materials, laboratories and craft workshops, sports facilities);
- the raw materials of production (iron and steel, wood, agricultural products, etc.);
- tools, equipment, work-clothing;
- products of work (goods, services, knowledge);
- money, wages, and the goods these purchased.

Willis's text also supplies information on the affects that assembled these materialities to produce educational and employment capacities in students, teachers and workers. These affective movements included:

- industrial production and commerce in Hammertown that turned raw materials into outputs, labour into wages, capital into profit;
- a capitalist economy that linked workers, employers, jobs and money;
- the needs of employers for appropriately skilled workers that turned children into the next generation of employees;
- differential school emphasis upon academic success or skills acquisition;
- material struggles between teachers and students for authority and control within school;
- differential allocation of human and non-human resources across the grammar/secondary modern divide;
- interactions between young people and NHM (for instance: music, sport, alcohol) and the informal hierarchies these generate.

These affective movements may be analysed further, to identify how they aggregate matter in various ways. Willis's text addressed three of these aggregations:

- the 11+ exam and later public examinations, which progressively aggregated children into academic or vocational careers;
- teachers' aggregations of students as 'conformists' or 'dissenters', based on their academic performance and classroom behaviour;
- students' interactions, including with NHM, during activities such as music, sport, alcohol and tobacco, which aggregated students into 'in' and 'out' groups.

By exploring the complex assemblage that melded education and the broader industrial daily life of 1970s Hammertown (and indeed the UK), ethological analysis also documents further aggregations. The micropolitics of this Hammertown assemblage progressively aggregated bodies into current and future waged workforces for local or national employers. Industrial workforces were aggregated into a gendered division of labour, with men undertaking semi-skilled and skilled manual and technical work while women and girls were oriented towards office work and retail, as well as domestic labour. Finally, the scholastic aggregations documented by Willis (11+ exam; formal and informal academic sorting) foreshadowed aggregations in industrial workplaces that differentiated and sustained hierarchies: from shop-floor workers and junior secretarial staff to supervisors, to middle- and senior-management.

However, an ethological approach acknowledges not only these aggregating flows, but importantly, also counterposes to them the many *singular* affects that may act upon an individual school student or worker (and also in schools, teachers and employers) to undermine these aggregations. Sometimes, NHM played a significant role in generating these singular affects. For example, an affect involving a teacher, student and the apparatus for a chemistry experiment might inspire interest in this area of study, while an affective interaction between a worker, tools and raw materials might foster or refine a specific work-skill.

Such singular affects arise continually, though Willis documented only a few examples in his study. He reported an unnamed grammar school boy who developed expertise and enthusiasm for golf, and left school at 15 to become a sports professional. This boy was ‘working class, rejects school, but has a total commitment to upward mobility through his chosen sport of golf’ (Willis, 1977: 86). The human and non-human materialities associated with golf were singular affects that countered the societal aggregations deriving from his lack of scholastic ability or qualifications. ‘Larry’ was a second grammar school boy, who had become disaffected by the NHM associated with his parents’ lifestyle, such as ‘a pension scheme, car, house, mortgage’ (Willis, 1977: 57). Here, the non-human materialities that Weberian or Bourdieusian analysis would posit as positive markers of a ‘middle-class’ social stratum, served instead as singular affects that established Larry’s negative emotional responses, leading him away from a conventional career path and toward an alternative life of travel and ‘dossing around’ (1977: 55).

These examples are not, we would suggest, ‘exceptions that prove the rule’ of the cultural reproduction of social divisions, but rather – by addressing non-human as well as human affectivity – disclose complex sociomaterial and affective flows not fully addressed in Willis’s original analysis. These singular flows generate huge variability, both in the affective workings of educational and work assemblages, and in the consequent capacities produced in different school students and workers. But rather than ‘culture’ or ‘symbolic capital’, it is the conflicting forces of sociomaterial aggregation and dis-aggregation and consequent multiple capacities of bodies that contributed to the production and reproduction, unpicking and dissolution of sociomaterial advantage and disadvantage in the schools and workplaces discussed by Willis. We develop these conclusions and their wider implications for the study of social inequality in the final section.

Discussion: a 'thousand tiny dis/advantages'

This materialist reading of Willis addresses the three invitations to the sociology of social position we advanced earlier. It recognised the contributions of a wide range of non-human as well as human matter to the production of social dis/advantage. It focused on the multitude of micropolitical forces in assemblages that produce opportunities and constraints on what bodies can do. And it explored the production of dis/advantage in everyday interactions rather than structural or systemic causes.

We would suggest that this analysis not only draws human/non-human interaction into a sociological understanding of dis/advantage, but also has the advantage of simplicity. It asserts that it is the affective (capacity to affect) interactions between bodies and other (human *and* non-human) matter that produces material capacities and incapacities in school students, school leavers, workers, institutions and non-human matter. Some of these affects contribute to societal categorisations of bodies into classes, genders and races, while others – such as differentiation of children into academic or vocational streams – have more subtle effects on people's capacities. Yet our re-reading of Willis reveals that while aggregations are frequent, they are continually challenged by other affective flows that generate opposing capacities, generating a flux in which bodies aggregate and dis-aggregate continuously and unendingly. Together these aggregations and disaggregations establish the opportunities and constraints on what – contextually – a body can do, and the consequent dis/advantages that continually accumulate in daily life.

Throughout the article, when discussing what a new materialist approach offers, we have chosen to speak of sociomaterial dis/advantage rather than social classes. 'Class', it seems to us, has become a sociological construct that does not do justice to the multiplicity of aggregations and material flows of affect that a new materialist ontology discloses. Our analysis has revealed the complex human interactions with both human and non-human materialities that produce divisions and inequalities: a complexity that cannot be easily summarised into two, three, four or seven classes. Rather than seeking some new, improved classification of social position, this task requires meticulous study of how the interactions in daily lives produce capacities, incapacities and inequalities, and how a drip feed of repeated and concerted micropolitical forces (affects) may lead to differential dis/advantage. By shifting focus for the production of social divisions from the 'structural' to the everyday, this ethological analysis also invites study of the frequent dis/aggregating, singular, affects that reverse or ameliorate these dis/advantages.

We are, of course, fully aware that the concept of 'class' has also been used sociologically to advance a secondary objective: to introduce a critical element to studies of dis/advantage (for example, Scambler, 2012; Skeggs, 2019). New materialist ontology has sometimes been criticised for undermining social justice struggles by dissolving categories such as classes and genders with which people can easily identify (Rekret, 2018). We would argue to the contrary, that the kind of analysis we have conducted here provides a critical explanation of *how* social division and inequalities emerge continually. Ethology's monist ontology replaces 'explanations' of the continuity of dis/advantage and inequalities in terms of 'another level' of structures, systems or mechanisms (DeLanda, 2016: 13–14; Latour, 2005), with the micropolitical movements of power within everyday and

commonplace material interactions. 'Power' is not a monolithic top-down imposition, but instead a multiplicity of interacting and conflicting affects – both powers and resistances – constantly in flux (Fox and Alldred, 2018). These emerge from the social economic and political relations of daily interaction, and manifest in the micropolitical struggles that ethology describes in terms of the two processes of specification/generalisation and aggregation/dis-aggregation outlined earlier. These shape what bodies and things can do: drawing bodies and other matter into collectivities and imposing constraints and convergences upon capacities (Fox and Alldred, 2018; Deleuze and Guattari, 1984: 288).

The outcomes of these multiple everyday struggles cannot be summarised as distinct stratifications or once-and-for-all social divisions. Rather, the multiple affective flows in assemblages produce a multiplicity of sociomaterial opportunities or constraints. New materialist scholars have argued the need to acknowledge not only 'a thousand tiny sexes' (Grosz, 1993) and a 'thousand tiny races' (Saldanha, 2006), but also a thousand (or a trillion!) tiny intersections (Dolphijn and van der Tuin, 2013) between class, age, gender, sexualities and race. This intersectionality must consequently also include a myriad of 'tiny classes' generated by everyday affect-economies. Or, as we prefer to describe them, a 'thousand tiny dis/advantages'. These dis/advantages accumulate, and a drip feed of dis/advantage may establish lasting inequalities. To use the example considered earlier: access to more pleasant sanitary facilities or canteens does not in itself create significant inequalities between manual workers and management, but taken alongside other tiny dis/advantages can accrete into something more substantive and resistant to dissolution.

This formulation alters the focus of both the study of social divisions and the amelioration of social inequality. To understand the breadth of relations and affects that produce social divisions entails gathering detailed data on the complex affect-economies operating in workplaces, schools, households and wider communities that aggregate and dis-aggregate bodies, and the tiny dis/advantages these produce on a daily basis. This, we suggest, can provide a basis for a critical research agenda to study the everyday production of dis/advantage, including the as yet under-explored affects deriving from the more-than-human world. Empirical research studies might employ the ethological methodology outlined briefly at the start of the previous section, to explore the assemblages of everyday life at work, in the home and elsewhere and the micropolitics that produce dis/advantage.

In turn, this supplies the basis – via policy, practice and activism, to transform schools, workplaces and communities in ways that remove divisive forces and substitute enabling and enriching ones that challenge and dispel sociomaterial dis/advantages. Mapping these affective flows – to comprehensively explicate how interactions between human and non-human matter produce and sustain social inequality – supplies the foundation for targeted interventions, to address societal aggregations and inequalities wherever they occur.

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Notes

1. Our focus on ‘non-human’ matter seeks to redress the privilege conventionally accorded to human matter in sociology rather than sustain an essentialist divide between human and non-human (Deleuze and Guattari, 1984: 4), in terms of some presumed inherent attributes. Later in the article, we consider the relational alternative to essentialism offered by Deleuzian ethology, whereby entities are considered always within their relational contexts.
2. These perspectives include actor-network theory, affect theories, biophilosophy, ethology, non-representational theory, onto-epistemology, materialist feminism, posthumanism, post-qualitative research and speculative realism.
3. Findings from two empirical studies on social dis/advantage by the first author are currently under review.
4. The use of terms such as ‘humans’ and ‘human beings’ are themselves aggregative, as is the term ‘non-human matter’. We acknowledged the multiplicity of NHM in the introduction; elsewhere (Fox and Alldred, 2020) we have adopted the term ‘posthumans’ to recognise that human capacities are also multitudinous, and often reflect relative advantage or disadvantage contingent on geography, gender, race etc. Our use of ‘human’ in this article should consequently be considered as a contested shorthand.
5. For discussion of the development within Bourdieu’s thinking from the early anthropological work to his later focus on symbolic capitals and habitus, see Evens (1999), King (2000).
6. We use the term ‘sociomaterial’ to acknowledge the continuity in new materialist ontology between social and natural, material and discursive (Fenwick, 2010).

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